

CLAIM AMENDMENTS

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 6. (Cancelled).

7. (Currently Amended) A pellicle operable to transmit light at an exposure wavelength, the pellicle comprising:

a frame; and

an amorphous fluoropolymer thin film including an optical thickness coupled to the frame, the optical thickness ~~operable to maximize~~ being greater than a design thickness by an amount less than or equal to approximately one-quarter of the exposure wavelength such that transmission of ~~an~~ light at the exposure wavelength at an angle of incidence greater than zero is substantially maximized, the design thickness comprising a thickness of the thin film that maximizes transmission of light incident to the thin film at a normal angle at the exposure wavelength;

the thin film formed to cooperate with a photomask including an opening ~~and to~~ facilitate projection of an image ~~including spatial information associated with the opening~~ from the photomask onto a surface, the resolution of the projected image defined at least in part by spatial information contained within light diffracted by the opening operable to increase resolution of the image.

8. (Cancelled).

9. (Currently Amended) The pellicle of Claim 7, further comprising the thin film including an associated ~~a~~ peak in transmission for normal incidence light at a wavelength located ~~located~~ between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

10. (Original) The pellicle of Claim 7, further comprising an anti-reflective coating disposed on a top surface and a bottom surface of the thin film.

11. (Original) The pellicle of Claim 10, wherein the anti-reflective coating includes a first refractive index approximately equal to the square root of a second refractive index associated with the thin film.

12. (Currently Amended) The pellicle of Claim 10, further comprising the thin film including an associated a peak in transmission for normal incidence light at a wavelength located between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

13. (Original) The pellicle of Claim 10, wherein the anti-reflective coating includes a thickness between approximately one-quarter of the exposure wavelength and approximately one-half of the exposure wavelength.

14. (Original) The pellicle of Claim 7, further comprising a plurality of adjoining anti-reflective coatings disposed on a top surface and a bottom surface of the thin film, each of the anti-reflective coatings including a different refractive index.

15. (Cancelled).

16. (Original) The pellicle of Claim 7, wherein:
the thin film includes a thickness of approximately 855 nanometers; and
the exposure wavelength is between approximately 248 nanometers and approximately 436 nanometers.

17. (Currently Amended) A photolithography system for optimizing off-axis transmission of light, comprising:

a photomask including an opening; and

a pellicle comprising:

a frame coupled to the photomask; and

an amorphous fluoropolymer thin film operable to transmit approximately ninety-nine percent (99%) of off-axis light at an exposure wavelength such that an image of the opening projected onto a surface by the photomask includes spatial information contained in the off-axis light, the resolution of the projected image defined at least in part by spatial information contained within a portion of the off-axis light diffracted by the opening ~~the spatial information operable to increase resolution of the image.~~

18. (Currently Amended) The system of Claim 17, further comprising the thin film including an optical thickness greater than a design thickness by less than or equal to approximately one-quarter of the exposure wavelength, the design thickness comprising a thickness of the thin film that maximizes transmission of light incident to the thin film at a normal angle at the exposure wavelength ~~operable to produce a peak in transmission for normal incidence light at the exposure wavelength.~~

19. (Currently Amended) The pellicle of Claim 17, further comprising the thin film including an associated a peak in transmission for normal incidence light at a wavelength ~~located~~ between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

20. (Original) The system of Claim 17, further comprising an anti-reflective coating disposed on a top surface and a bottom surface of the thin film, the anti-reflective coating including a thickness between approximately one-quarter of the exposure wavelength and approximately one-half of the exposure wavelength.

21. (Currently Amended) The pellicle of Claim 20, further comprising the thin film including an associated a peak in transmission for normal incidence light at a wavelength ~~located~~ between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

22. (Original) The system of Claim 20, wherein the anti-reflective coating includes a first refractive index approximately equal to the square root of a second refractive index associated with the thin film.

23. (Original) The system of Claim 17, further comprising a plurality of adjoining anti-reflective coatings disposed on a top surface and a bottom surface of the thin film, each of the anti-reflective coatings including a different refractive index.

24. (Original) The system of Claim 17, wherein the frame comprises aluminum.

25. (Cancelled).

26. (Previously Presented) A method for performing photolithography, comprising:

forming an amorphous fluoropolymer thin film including an optical thickness, the optical thickness ~~operable to maximize~~ being greater than a design thickness by an amount less than or equal to approximately one-quarter of an exposure wavelength such that transmission of ~~at least one~~ light at the exposure wavelength at an angle of incidence greater than zero is substantially maximized, the design thickness comprising a thickness of the thin film that maximizes transmission of light incident to the thin film at a normal angle at the exposure wavelength;

attaching the thin film to a frame to form a pellicle;

mounting the pellicle on a photomask including an opening;

exposing the pellicle and the photomask to radiant energy having the exposure wavelength, the radiant energy being incident upon the pellicle at the angle of incidence greater than zero; and

projecting the radiant energy through the opening in the photomask to form an image on a surface, the thin film operable to facilitate projection of spatial information associated with the opening, the resolution of the image projected on the surface being defined at least in part by the projected spatial information ~~and increase resolution of the image.~~

27. (Original) The method of Claim 26, further comprising coating a top surface of the thin film with an anti-reflective material, the anti-reflective material including a thickness between approximately one-quarter of the exposure wavelength and approximately one-half of the exposure wavelength.

28. (Original) The method of Claim 27, further comprising coating a bottom surface of the thin film with the anti-reflective material.

29. (Currently Amended) The pellicle of Claim 26, further comprising the thin film including an associated a peak in transmission for normal incidence light at a wavelength ~~located~~ between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

30. (Original) The method of Claim 26, further comprising coating at least one of a top surface and a bottom surface of the thin film with a plurality of adjoining layers of anti-reflective material, each layer including a different refractive index.